

CLAIMS

Now, therefore, the following is claimed:

1. A data communication system for communicating data between a central office and a remote premises that is remotely located from said central office, comprising:
 - a first transceiver coupled to a first communication connection extending from said central office to said remote premises, said first transceiver configured to communicate with a transceiver located at said central office;
 - a second transceiver coupled to a second communication connection extending from said central office to said remote premises; and
 - control logic residing at said remote premises, said control logic configured to detect an error condition associated with communication between said first transceiver and said transceiver located at said central office, said control logic configured to transmit, in response to a detection of said error condition, a switch notification to said central office via said second transceiver and said second communication connection, wherein at least one component at said central office is configured to route data over said second communication connection in response to said switch notification.
2. The system of claim 1, wherein said at least one component switches, in response to said switch notification, communication from said first communication connection to said second communication connection.

3. The system of claim 1, further comprising a first chassis and a second chassis located at said central office, wherein said transceiver located at said central office is mounted in said first chassis, and wherein a third transceiver mounted in said second chassis is configured to receive said switch notification and to backup said transceiver mounted in said first chassis based on said switch notification.

4. The system of claim 1, wherein data to be communicated over said first communication connection is communicated, based on said switch notification, over said second communication connection in lieu of said first communication connection.

5. The system of claim 1, wherein said second communication connection provides a management link and a communication link between said remote premises and said central office.

6. The system of claim 5, wherein said management link is terminated by a framer, and wherein said communication link is terminated by said second transceiver.

7. The system of claim 5, wherein said management link is terminated prior to said error condition, and wherein said second transceiver is configured to terminate said communication link in response to said switch notification.

8. The system of claim 7, wherein said management link is terminated by a framer prior to said error condition.

9. The system of claim 1, further comprising a switch coupled to a communication device and to said first and second transceivers, wherein said control logic is configured to change a state of said switch in response to said detection of said error condition.

10. The system of claim 9, wherein said control logic changes said state in response to said detection such that said first transceiver is electrically isolated from said communication device and such that said second transceiver is conductively coupled to said communication device.

11. The system of claim 10, wherein said at least one component is configured to route data destined for said communication device to said first transceiver prior to said error condition, said at least one component further configured to route data destined for said communication device to a third transceiver based on said switch notification, said third transceiver coupled to said second communication connection and configured to communicate with said second transceiver.

12. A data communication system having a central office and a remote premises that is remotely located from said central office, comprising:

a first transceiver coupled to a first communication connection extending from said central office to said remote premises, said first transceiver configured to communicate, via said first communication connection, with a transceiver located at said central office;

a second transceiver coupled to a second communication connection extending from said central office to said remote premises;

a communication device in communication with said first transceiver; and

control logic residing at said remote premises, said control logic configured to initiate, in response to a detection of an error condition, a backup switch such that said communication device communicates with said second transceiver in lieu of said first transceiver, said control logic further configured transmit information indicative of said backup switch to said central office, wherein data destined for said communication device is transmitted, based on said information, to said second transceiver via said second communication connection in lieu of said first communication connection.

13. The system of claim 12, further comprising a first chassis and a second chassis located at said central office, wherein said transceiver located at said central office is mounted in said first chassis, and wherein a transceiver mounted in said second chassis is configured to receive said information and to backup said transceiver mounted in said first chassis based on said information.

14. The system of claim 12, further comprising a switch coupled to said first transceiver, said second transceiver, and said communication device, said switch configured to conductively couple said first transceiver to said communication device prior to said backup switch, wherein said control logic is configured to change a state of said switch during said backup switch such that said switch conductively couples said communication device to said second transceiver.

15. The system of claim 12, wherein said second communication connection provides a management link and a communication link, and wherein said management link is terminated by a framer and said communication link is terminated by said second transceiver.

16. The system of claim 15, wherein said second transceiver is configured to terminate said communication link in response to said backup switch initiated by said control logic.

17. A data communication system having a central office and a remote premises that is remotely located from said central office, comprising:

a chassis for holding a first remote transceiver and a second remote transceiver, said first remote transceiver coupled to a first central office transceiver via a first communication connection extending from said central office to said remote premises, said second remote transceiver coupled to a second central office transceiver via a second communication connection extending from said central office to said remote premises; and

control logic mounted on said chassis, said control logic configured to initiate a backup switch in response to a detection, by said control logic, of an error condition associated with communication occurring over said first communication connection, said control logic configured to switch said communication from said first communication connection to said second communication connection, wherein at least one component at said central office is responsive to said control logic for routing data to said second central office transceiver in lieu of said first central office transceiver.

18. The system of claim 17, further comprising a first central office chassis and a second central office chassis, wherein said first central office transceiver is mounted in said first central office chassis and said second central office transceiver is mounted in said second central office chassis.

19. The system of claim 17, wherein said second communication connection provides a management link and a communication link, and wherein said management link is terminated by a framer and said communication link is terminated by said second remote transceiver in response to said backup switch initiated by said control logic.

20. The system of claim 17, further comprising a switch coupled to said first remote transceiver, said second remote transceiver, and a communication device residing at said remote premises, said switch configured to conductively couple said first remote transceiver to said communication device prior to said backup switch, wherein said control logic is configured to change a state of said switch during said backup switch such that said switch conductively couples said communication device to said second remote transceiver.

21. A method for communicating between a central office and a remote premises that is remotely located from said central office, comprising the steps of:

communicating between a first remote transceiver and a first central office transceiver via a first communication connection extending from said central office to said remote premises;

detecting an error condition associated with said communicating step;

transmitting, in response to said error condition, a switch notification from a second remote transceiver to a second central office transceiver via a second communication connection extending from said central office to said remote premises; and

performing a backup switch in response to said switch notification such that a communication device previously communicating over said first communication connection switches to communicating over said second communication connection.

22. The method of claim 21, wherein said first central office transceiver is mounted in a first chassis and said second central office transceiver is mounted in a second chassis, and wherein said method further comprises the step of initiating communication between said second central office transceiver and said second remote transceiver in response to said switch notification.

23. The method of claim 21, wherein said performing step comprises the step of changing a state of a switch that is coupled to said first remote transceiver, said second remote transceiver, and said communication device.

24. The method of claim 21, further comprising the steps of:
establishing a management link over said second communication connection;
communicating status and control information via said management link; and
establishing a communication link over said second communication
connection in response to said switch notification.

25. The method of claim 24, further comprising the steps of:
terminating said management link via a framer residing at said remote
premises; and
terminating said communication link via said second remote transceiver.